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| EXAMINER | |
|---|---|
| IRSHADULLAH, M | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3623 | |

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10

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/598,239 | GEDDES ET AL. | |
| | Examiner | Art Unit | |
| | M. Irshadullah | 3623 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the c rrespondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *21 June 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4-8* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4, 6, 9, 10, 12-19, 23, 25 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Friedman et al (US Patent 5,995,959).

Friedman disclose:

Claim 1. A supply chain management system comprising:

a) a knowledge base including expert knowledge about one or more business process domains (Fig. 2 {28-30}, col. 8, lines 38-54 and col. 15, lines 21-26, wherein "information sources 28-30, col. 8, lines 48-50" are "knowledge bases" which comprise knowledge or expert knowledge from various knowledge sources, as indicated by the recitation of col. 8, lines 38-39 and 50-54 "user's inputted informational query is satisfied using said information sources by reference's tools 22, 23, 25 and 26 depicted in Fig. 2, and "Car domain, col. lines 21-24 and People domain, col. 15, lines 25-26" are domains relating to trade or business);

b) an inference engine coupled to the knowledge base, the inference engine including a partial order planner (Table C, col. 11, line 7 through col. 12, line 44, col. 9,

lines 32-56 and col. 16, lines 17-65, wherein sub-procedure FindSolutions functioning as "inference engine" as indicated by the recitation "This section explains how sub-procedure FindSolutions tests each ordered sequence found to determine whether it can be elaborated into one or more solutions to the (user) input query-col. 11, lines 10-13. Moreover, FindSolutions being integral part of occam-col. 9, lines 32-50would have connection {coupled to} information sources 28-30 {knowledge bases} as well as would comprise cited "partial-order planner-col. 16, lines 22-25);

c) a management system that collects and distributes data regarding one or more business processes and determines one or more goals (Fig. 1 {2 with 8}, col. 4, lines 47-50, wherein "Access system 2 in conjunction with storage device 8 (device 8 storing data structures {collecting data} for accessing by the methods of the invention {distributing}) is functioning as "management system", as also supported by col. 3, lines 47-53, and "searching from a set of operators describing available information sources to "solving user's query or goal" {col. 9, lines 53-55} in terms of said information sources" pointing to "determining goal or goals", said goals relating to above discussed trade or business process arena or domain); and

d) a graphical user interface system that displays information regarding the one or more business processes (Fig. 1 {1}, col. 3, lines 47-53 and Fig. 2 (20), col. 8, lines 38-30, wherein "user 1, Fig. 1 and user interface device 20, Fig. 2" is either an intelligent monitor or a computer {PC etc.} comprising a display encompassing claimed "graphical interface" which would depict information relative to above discussed business processes);

e) wherein the inference engine uses the partial order planner to determine a plan for achieving at least one of the one or more goals (See discussion about partial-order planner and FindSolutions or inference engine determining goals in 1a) and 1c) above).

Claim 9. The system of claim 1, wherein the knowledge base includes one or more scripts, each of the one or more scripts comprising a sequence of fully or partially specified actions (Col. 15, Table 1, wherein entries of the table point to availability of "texts or scripts" including claimed series or sequence of partially assigned or specified actions).

Claim 10. The system of claim 1, wherein the inference engine includes an intent interpreter (Col. 7, lines 50-51, wherein "procedure interpreting" inferring availability of "interpreting or intent interpreting" function.

Claim 12. The system of claim 1, wherein the knowledge base includes tables of data, each table storing zero or more data records (Fig. 2 {28-30}, col. 8, lines 48-50, wherein information sources 28-30 being knowledge bases are indeed databases of knowledge storing data in some format including tabular format and tables would comprise no {zero} data or plurality of entries or records).

Claim 13. The system of claim 12, further comprising a data security mechanism that 15 protects data stored in the knowledge base (Inherent, since it is an essential requisite in database environment).

Claim 14. The system of claim 13, wherein the data security mechanism maintains an access control list for one or more tables in the knowledge base (Inherent, since not all users have same access privilege, for instance examiner and Supervisor and Director have access privilege in accordance their status or level).

Claim 15. The system of claim 14, wherein the data security mechanism maintains an access control list for one or more data records in the knowledge base (Inherent, keeping or maintaining the matrices or list of access privilege or control is the basic way).

Claim 16. The system of claim 1, wherein the partial order planner is a least commitment planner (Col. 16, lines 22-25, wherein recitation of "sound, complete, free of threats" inferring "commitment encompassing lowest or least commitment).

Claim 17. A method for conducting supply chain management, the method comprising:

a) determining a goal for a supply chain participant (Col. 9, lines 52-56, wherein "searching from a set of operators describing available information sources to "solving

user's query or goal" in terms of said information sources" pointing to "determining goal or goals", said goals relating to above discussed trade or business processes arena including supply chain); and

b) using a knowledge base to create a plan for meeting the determined goal (Fig. 2 (28-30 and 20, 21 through 20), col. 8, lines 38-54, wherein "information sources 28-30" are "knowledge bases" which are employed or used develop or create a plan-col. 8, lines 43-46 which is "satisfying the user information query-col. 16, line 20").

Claim 18. The method of claim 17, wherein the act of determining a goal for a supply chain participant and creating a plan for meeting the goal is performed using a partial order planner (Col. 16, lines 17-26, wherein cited partial order planner is employed for claimed purpose as discussed above).

Claim 19. The method of claim 18, wherein the partial order planner is a least commitment planner (See discussion of applicant's claim 16 above).

Claim 23. A supply chain management system comprising:

a) a plurality of intelligent agents (Col. 1, line 34 recited with lines 14-17 and col. 9, line 32 through col. 12, line 39, wherein "agents" are "intelligent agents", since they are automated computerized processes or procedures, by this token reference's procedure "occam" and sub-procedures "InstantiateOp" and "FindSolutions", col. 11, Table A are intelligent agents), each of the plurality of intelligent agents including:

b) a knowledge base including expert knowledge about one or more business process domains (See discussion of applicant's claim 1a) above);

c) an inference engine coupled to the knowledge base, the inference engine including a partial order planner (See discussion of applicant's claim 1b) above);

d) a data management system that collects and distributes data regarding one or more business processes (See discussion of applicant's claim 1c) above); and

e) a graphical user interface system that displays information regarding the one or more business processes (See discussion of applicant's claim 1e) above).

Claim 25. The supply chain management system of claim 24, wherein each agent of the plurality of intelligent agents determines the intentions of one or more users and wherein the data management system of a first agent of the plurality of intelligent agents shares data with a second agent of the plurality of intelligent agents representing the determined intentions of the one or more users to facilitate collaboration (See discussion of applicant's claims 23a) and 10 above an a user would employ cited intelligent of the claim 25a) for finding or determining intents using intent interpreter of the claim 10).

Claim 26. The supply chain management system of claim 25, wherein the system uses the shared data to automatically detect conflicts between the one or more users (Col. 14, lines 22-30, wherein "executing the same operator twice not returning

new tuples-lines 26-29" inferring availability of a function which checks for or detects duplication or conflict).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-4, 6-8, 21-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman et al (US Patent 5,995,959) in view of Banks et al's Pilot's Associate, 1991.

In the following claims:

Claim 2. The system of claim 1, wherein the knowledge base includes one or more plan-goal graphs.

Claim 3. The system of claim 1, wherein the knowledge base includes one or more concept graphs.

Friedman et al do not teach:

"plan-goal graph" and "concept graph".

However, Banks et al teach the same (Fig. 1, page 19, col. 3, lines 48-50 and page 23, col. 1, lines 25-28). While Banks et al's method relates to pilots, yet its application to

various other endeavors such as commerce including supply chain is within the scope as indicated by "The technology of Pilot's Associate can be applied across a broad spectrum of applications. In particular real time, interactive process control applications are likely candidates-page 29, col. 1, lines 11-15".

It would have been obvious to one of ordinary skill in the business art at the time of applicant's invention to incorporate Banks et al's graphs into Friedman et al's invention, thereby achieving a real time interactive process control applications which is a dire desire and need of business endeavors.

Claim 4. The system of claim 3, wherein the inference engine creates one or more plan instances (Friedman et al: As discussed above, FindSolutions being a sub-procedure of the reference procedure "occam-col. 9, lines 32-50", functions as "inference procedure or engine" would include "partial order planner-col. 16, line 23", and would employ or use it to generate or create all plans-col. 11, lines 51-52, or one or more instances thereof).

Claim 6. The system of claim 4, wherein the inference engine manages life cycle states of the one or more plan instances according to a commitment level of the partial to order planner (Col. 2, lines 38-41 and col. 16, lines 22-25. Above discussed FindSolutions {or inference engine} would control or manage "information state or life cycle states as indicated by "information collected at a particular stage in potential execution of a potential query plan-lines 39-41, wherein "particular stage in potential

execution of a potential query plan" inferring "life cycle" of the plan and recitation of "sound, complete, free of threats" indicating claimed "commitment level" of cited partial order planner. Moreover, "commitment strategies are known since 1991 (col. 18, {19} lines 40-42), inclusion of which would be considered inherent at the time of applicant's invention).

In the following claim:

Claim 7. The system of claim 6, wherein the inference engine manages monitoring of the situation using the one or more concept graphs according to the life cycle states of the one or more plan instances.

Friedman et al teach:

inference engine, monitoring and life cycle states (as discussed above).

Friedman et al do not teach:

concept graphs

However, Banks et al teach (Page 23, col. 1, lines 25-28). While Banks et al's method relates to pilots, yet its application to various other endeavors such as commerce including supply chain is within the scope as indicated by "The technology of Pilot's Associate can be applied across a broad spectrum of applications. In particular real time, interactive process control applications are likely candidates-page 29, col. 1, lines 11-15".

It would have been obvious to one of ordinary skill in the business art at the time of applicant's invention to incorporate Banks et al's graphs into Friedman et al's invention,

thereby achieving a real time interactive process control applications which is a dire desire and need of business endeavors.

Claim 8. The system of claim 7, wherein the inference engine determines what further processing is needed by the partial order planner based on the monitoring of the situation (Col. 12, lines 37-39, wherein "checking whether plan is redundant and returning it to solution only if it is not redundant" inferring "taking further action {returning to solution} if plan were not redundant, and it would depend on above discussed checking or monitoring).

Claim 21. The method of claim 17, wherein the knowledge base includes one or more plan-goal graphs (See discussion of claim 2 above).

Claim 22. The method of claim 17, wherein the knowledge base includes one or more concept graphs (See discussion of claim 3 above).

Claim 24. The supply chain management system of claim 23, wherein the knowledge base includes one or more concept graphs (As discussed above Friedman et al's information sources 28-30, Fig. 2 are knowledge bases or databases of knowledge, a user would store above discussed concept graphs in said information sources or knowledge bases).

5. Claims 11 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman et al (US Patent 5,995,959) in view of Shasha (US Patent 5,809,212). In the following claims:

Claim 11. The system of claim 1, wherein the inference engine includes a nonmonotonic truth maintenance system.

Claim 20. The method of claim 17, wherein the act of determining a goal for a supply chain participant is performed using a non-monotonic truth maintenance system. Friedman et al teach:

the inference engine {Claim 11} and determining a goal {Claim 132} (As discussed above).

Friedman et al do not teach:

nonmonotonic truth maintenance system.

However, Shasha teaches the same (Col. 3, lines 38-42). Friedman et al and Shasha both employ AI procedures to solve problems relating to various commercial areas or domains. While Friedman et al teach creating plan for solving a user's query or problem concerning trade, such as car buying, Shasha teaches non-monotonic truth maintenance system.

It would have been obvious to one of ordinary skill in the relevant art at the time of applicant's invention to incorporate Shasha's feature into Friedman et al's invention, thereby providing a system for an improved representation of networks of facts, belief

and expectations so that a user would acquire qualified statements of knowledge from the system as desired.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman et al (US Patent 5,995,959) in view of Banks et al's Pilot's Associate and further in view of Shasha (US Patent 5,809,212).

In the following claim:

Claim 5. The system of claim 3, wherein at least one of the one or more concept graphs includes a non-monotonic model of economic benefit provided by the plan instances created by the inference engine.

Friedman et al teach:

plan instances created by the inference engine (As discussed above), and

Banks et al teach:

concept graphs.

Both Friedman et al and Banks et al do not teach:

non-monotonic model.

However, Shasha teaches the same (Col. 3, lines 38-42, said non-monotonic truth maintenance system inferring non-monotonic modeling or model). Friedman et al and Shasha both employ AI procedures to solve problems relating to various commercial areas or domains. While Friedman et al teach creating plan for solving a user's query or problem concerning trade, such as car buying, Banks et al's Pilot Associate system or

method is applicable in broad spectrum of applications (page 23, col. 1, lines 11-15) and Shasha teaches non-monotonic truth maintenance system.

It would have been obvious to one of ordinary skill in the relevant art at the time of applicant's invention to incorporate Shasha's feature into the combination of Banks et al Friedman et al's invention, thereby providing a system for an interactive process entailing improved representation of networks of facts, belief and expectations so that a user would acquire qualified statements of knowledge from the system as desired in real time.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) Cudahy et al., US Patent 6,567,822 B1. Generating A Data Request Graphical User Interface For Use In An Electronic Supply Chain Value Assessment.

B) Haverstock et al., US Patent 6,449,640 B1. Web Server With Unique Indentification Of Linked Objects.

C) Nadumu et al., US Patent 6,314,555 B1. Software System Generation.

D) Taylor et al., US Patent 6,292,830 B1. System For Optimizing Interaction Among Agents Acting On Multiple Levels.

E) Lee et al., US Patent 6,263,358 B1. Scheduler For A Software System Having Means For Allocating Tasks.

F) Wong, US Patent 6,115,690. Integrated Business-To-Business Web Commerce And Business Automation System.

G) Huang et al., US Patent 5,953,707. Decision Support System For The Management Of An Agile Supply Chain.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Irshadullah whose telephone number is (703) 308-6683. The examiner can normally be reached on Monday-Friday 11:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (703) 305-9643. The fax phone numbers for the organization are (703) 872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

M. Irshadullah
September 22, 2003

Susanne Diaz
Susanne Diaz
Primary Examiner
A.U. 3623